



Town of Arlington
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November 14, 2017
Spy Pond Edge & Erosion Control **30% Design**



Agenda

- 1. Introductions**
- 2. Project Schedule**
- 3. Project Goals**
- 4. Key Plan**
- 5. Restoration Strategy and Zones**
- 6. Existing Conditions and Proposed Design**
 - **Spy Pond Park**
 - **Scannell Field**
 - **Boys and Girls Club**
 - **Spring Valley Street**
- 6. Your Questions and Comments**



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Tonight's Agenda
Spy Pond Edge & Erosion Control **30% Design**



Spy Pond Project Team:

Town of Arlington Working Group:

Lela Shepherd, Conservation Agent, lshepherd@town.arlington.ma.us

Bill Copithorne, Assistant Town Engineer, bcopithorne@town.Arlington.ma.us

Jon Marshall, Director of Recreation, jmarshall@town.arlington.ma.us

Cathy Garnett, Conservation Commission

Leslie Mayer, Park and Recreation Commission

Don Vitters, Park and Recreation Commission

Karen L. Grossman, Friends of Spy Pond Park

Hatch Chester:

Duke Bitsko, Principal-in-Charge, duke.bitsko@hatch.com

Hilary Holmes, Project Manager, hilary.holmes@hatch.com

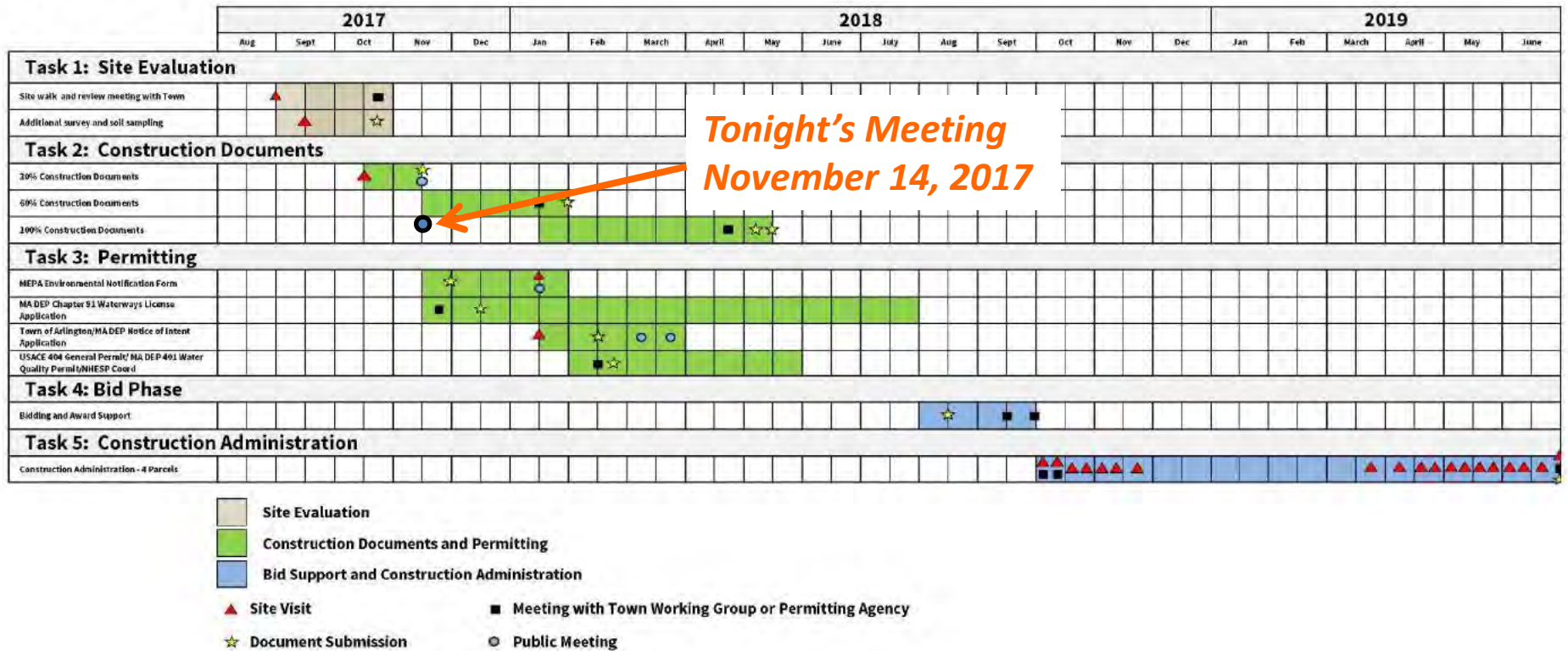
Ginna Johnson, Landscape Architect, ginna.johnson@hatch.com



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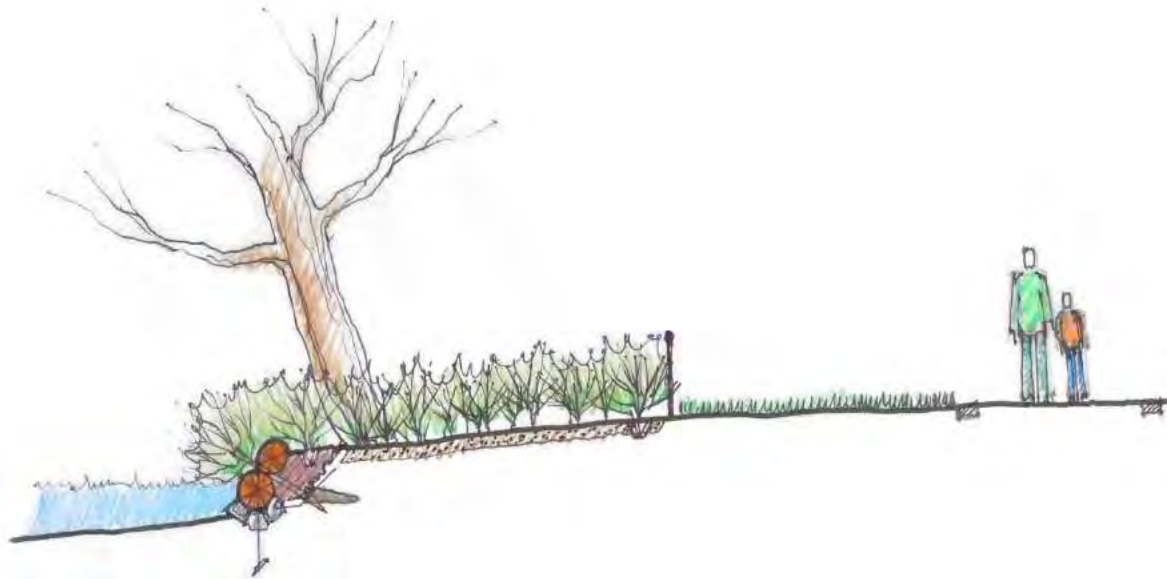
Project Team
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Spy Pond Edge & Erosion Control Project - Phase 2



Phase 1 (2016)

1. Existing Shoreline Categorization Report
2. Public Meetings
3. Working Group Meetings
4. Preferred Concept Plans
5. CPA Funding Approved for Design and Construction



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Project Goals
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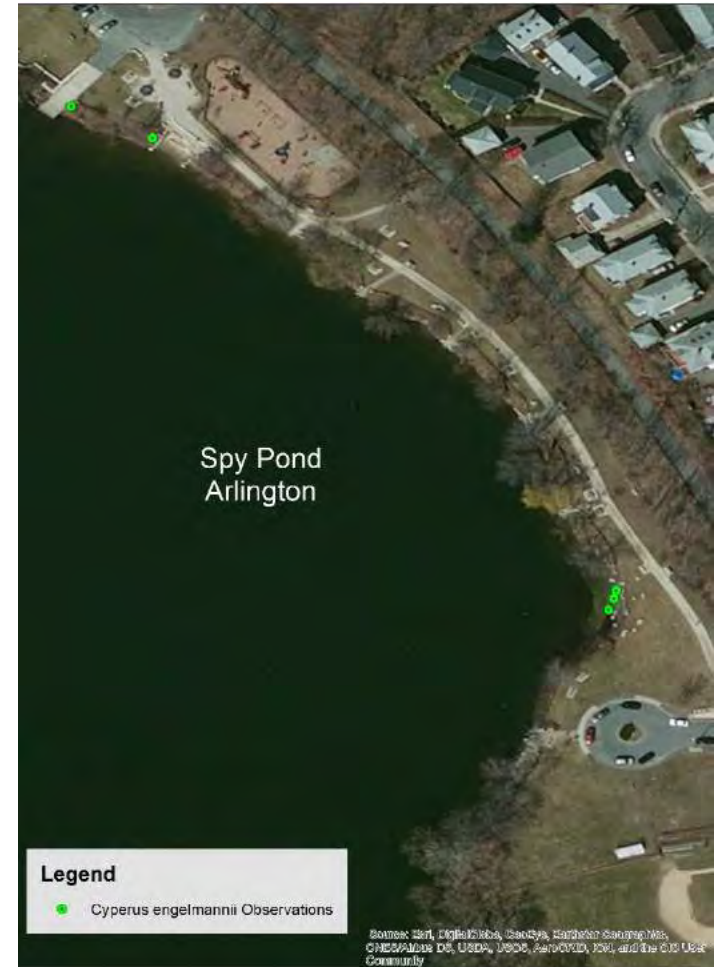
Phase 2

Site Evaluation

- 1. Resource Area Delineation**
 - Bank, BVW**
- 2. Botanical Survey**
 - Engelmann’s Umbrella Sedge**
- 3. Invasive Species Identification**
- 4. Updated Existing Conditions Plan**

Working Group Meeting

- 1. Review Site Evaluation**
- 2. Revised Design Concepts for Access at Spy Pond, Scannell Field, Boys & Girls Club, and Spring Valley Street**



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Project Goals
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Project Goals

1. **Preserve, stabilize & strengthen the pond's banks**
2. **Control bank erosion**
3. **Protect & enhance wildlife habitat**
4. **Control access to prevent unauthorized paths**
5. **Encourage commitment from constituency groups**
6. **Increase quality of water & opportunity for water use**
7. **Promote stormwater infiltration along the shoreline**
8. **Implement environmental education**



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Project Goals
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Location Plan
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Restoration Strategy

Invasive Removals

Soil and Planting Restoration:

- *Zone 1: Shoreline Stabilization*
- *Zone 2: Bordering Vegetated Wetland Enhancement Planting*
- *Zone 3: Riparian Buffer Zone Enhancement Planting*
- *Zone 4: Riparian Woodland Enhancement Planting*

Fencing

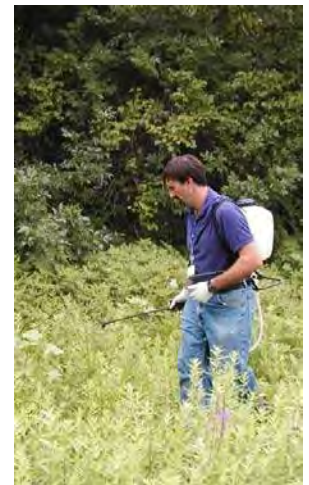
Signage



Invasive Plant Management Strategy

1. Coordinate Conservation Commission approval for removal method and species.
2. Woody Trees, Shrubs and Vines:
 - Saplings (up to 1") – mechanical removal with Weed Wrench
 - Mature Plants - cut flush to ground and dispose legally off-site (landfill).
 - Suckering Varieties – cut flush and apply approved herbicide.*
3. Herbaceous Plants:
 - Pull plants and roots by hand and dispose legally off-site (landfill).
 - Seed and stabilize with native mix appropriate for plant community.
4. Japanese Knotweed Colonies (Manual vs. Chemical Method):
 - Cut stems to ground twice/year and dispose legally off-site (3-7 years).
 - Cut stem herbicide treatment once/year (repeat second year).
5. Establish native plant communities.
6. Monitor and manage all removal areas for 3 years (minimum).

* *Requires Licensed MA applicator*



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Restoration Strategy: Invasive Species
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Zone 1: Shoreline Stabilization

1. Install turbidity curtain
2. Install coir fascines
3. Place soil and regrade behind coir fascines
4. Install planting

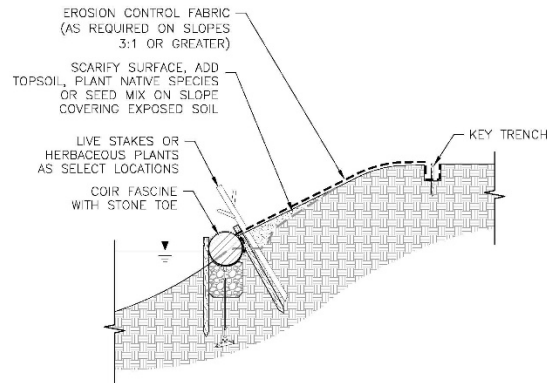


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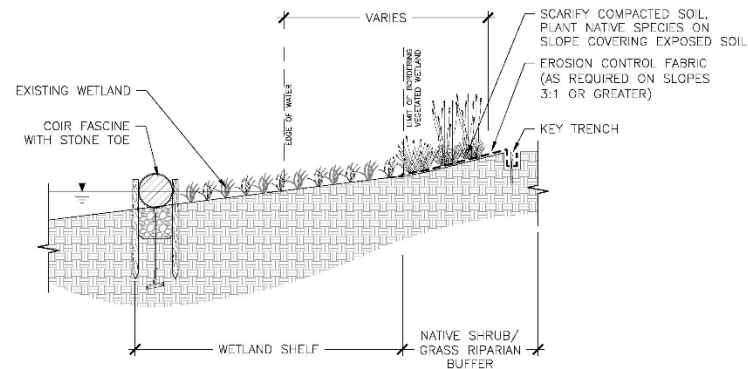
Restoration Strategy: Zone 1
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Zone 1: Shoreline Stabilization

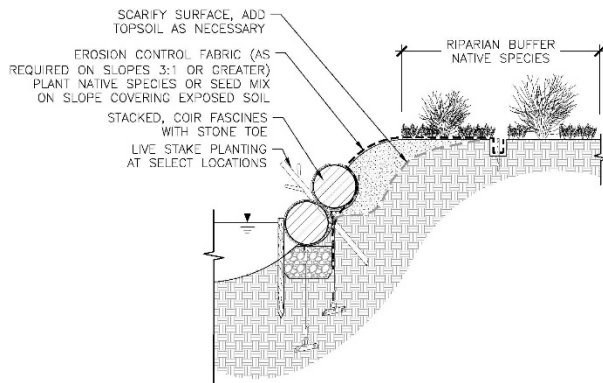
4 Treatments:



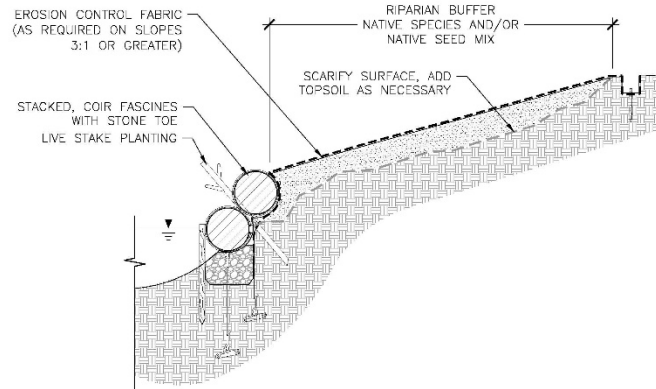
TREATMENT 1: SINGLE COIR FASCINE
SCALE: NTS



TREATMENT 2: SINGLE COIR FASCINE AT WETLAND
SCALE: NTS



TREATMENT 3: DOUBLE-STACKED COIR FASCINE
SCALE: NTS



TREATMENT 4: DOUBLE-STACKED COIR FASCINE WITH RECB
SCALE: NTS



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Restoration Strategy: Zone 1
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Zone 1: Shoreline Stabilization



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Restoration Strategy: Zone 1
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Zone 2: Bordering Vegetated Wetland Enhancement Planting

1. Protect resource and endangered species habitat
2. Remove targeted invasives
3. Scarify compacted areas (footpaths)
4. Top-dress with weed-free topsoil
5. Install seed and tackifier
6. Install plugs and live stakes in hydric soils



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Restoration Strategy: Zone 2
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Zone 2: Bordering Vegetated Wetland Enhancement Planting



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Restoration Strategy: Zone 2
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Zone 3: Riparian Buffer Zone Enhancement Planting

1. Remove invasives
2. Scarify compacted areas (footpaths)
3. Top dress with weed-free topsoil
4. Install seed and tackifier
5. Install plugs
6. In coordination with Working Group, install live stakes in groups to frame views & improve habitat.



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Restoration Strategy: Zone 3
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Zone 3: Riparian Buffer Zone Enhancement Planting



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Restoration Strategy: Zone 3
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Zone 4: Riparian Woodland Enhancement Planting

1. Remove invasives
2. Scarify compacted areas (footpaths)
3. Top dress with weed-free topsoil
4. Install seed and tackifier
5. Install native woodland groundcovers
6. Install live stakes to improve habitat
7. Install tree tubelings to restore understory & canopy



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Restoration Strategy: Zone 4
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Zone 4: Riparian Woodland Enhancement Planting



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Restoration Strategy: Zone 4
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North Beach



Access Point

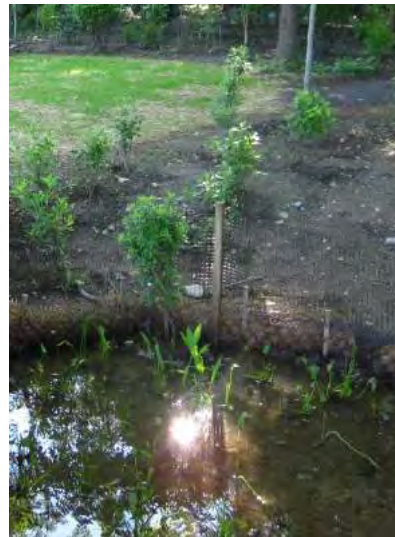


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Restoration Strategy: Fencing
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Goose Exclusion Fence



Establishment Fence

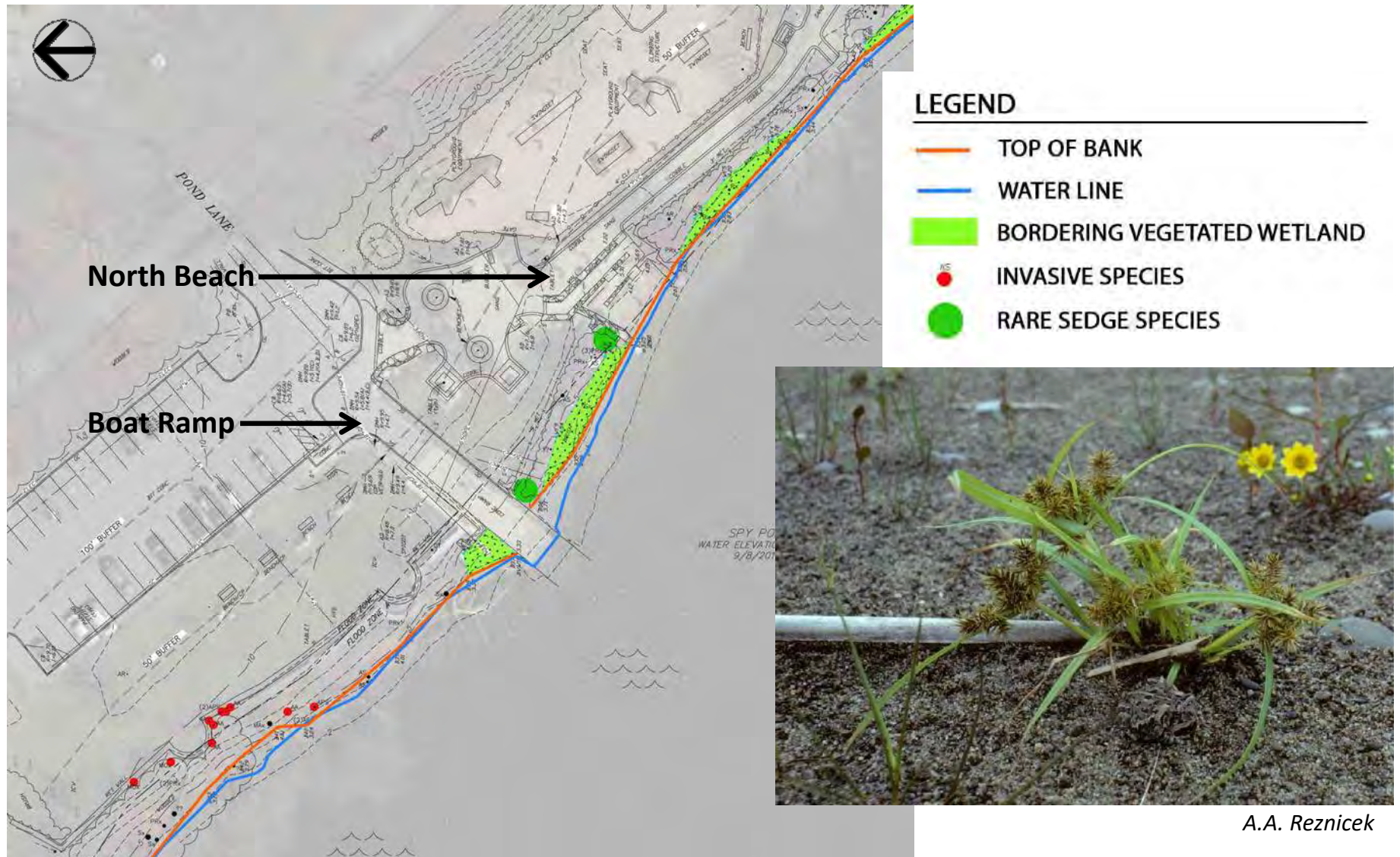


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Restoration Strategy: Fencing
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Spy Pond Park-North



A.A. Reznicek



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Existing Conditions
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Invasive Species

Spy Pond Park North

3 to 8" DBH = 9
>8 to 20" DBH = 1
>20" DBH = 0
Total 10



Japanese knotweed colony



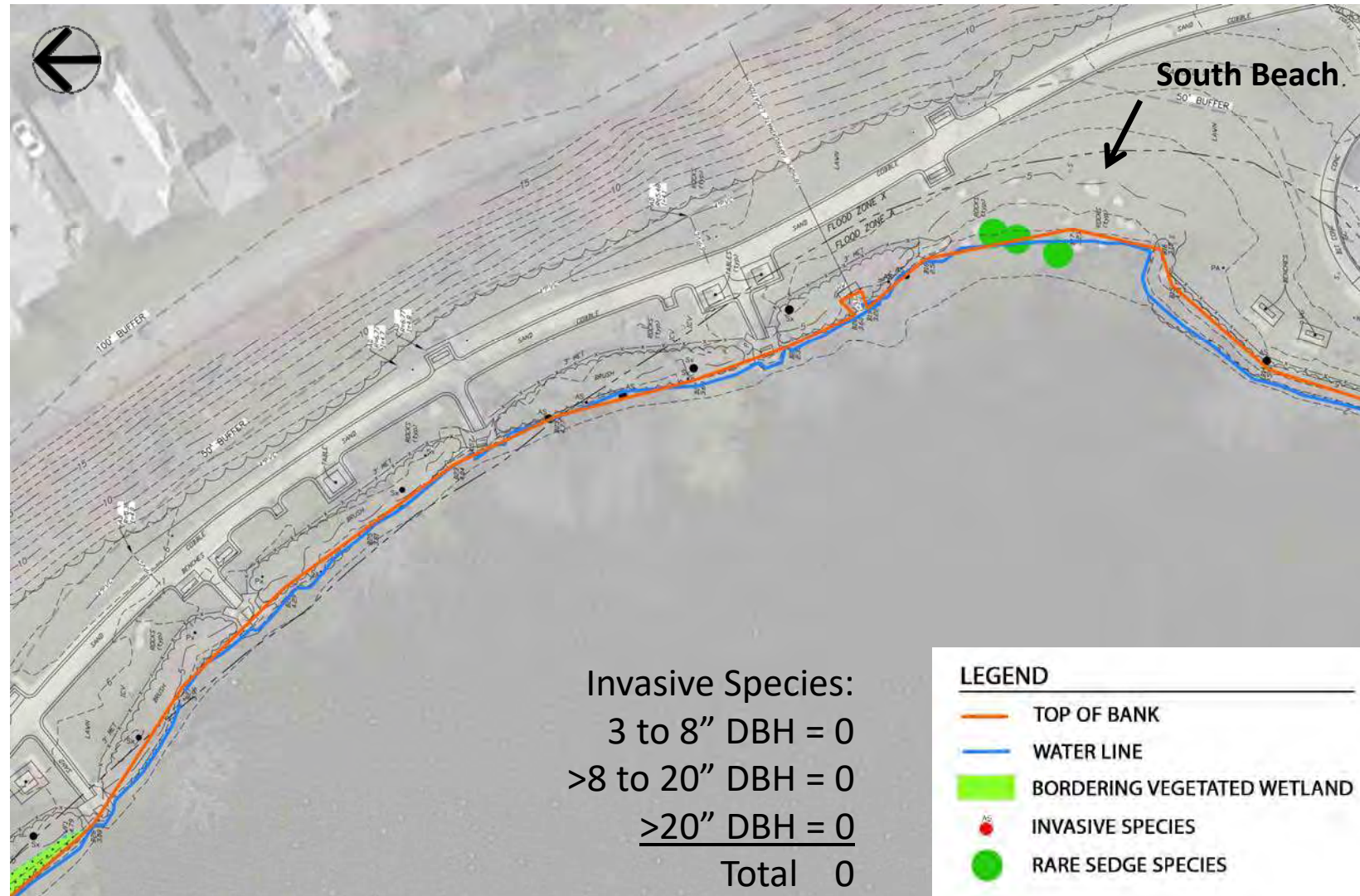
Ailanthus volunteers



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Invasive Species
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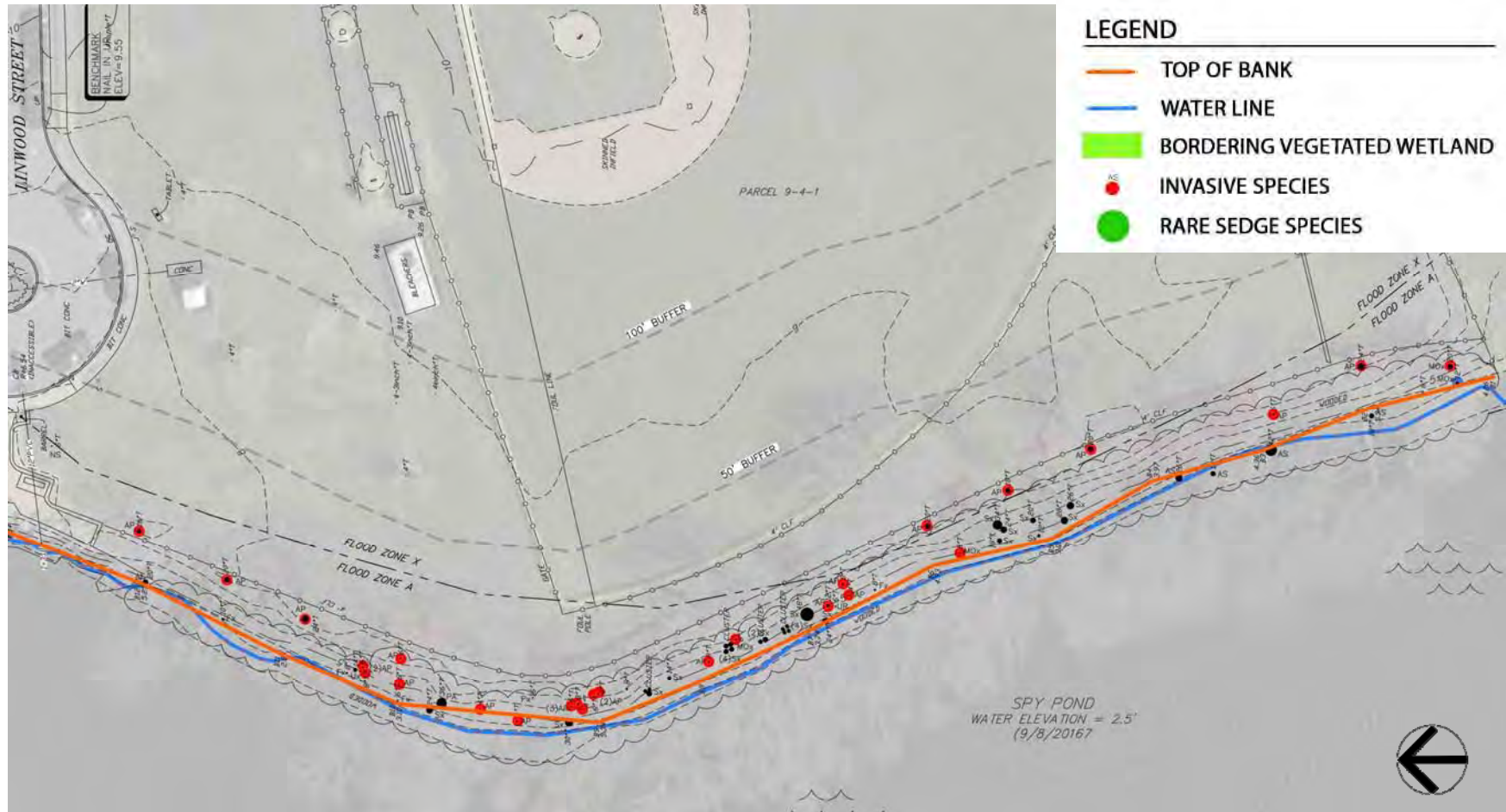
Spy Pond Park-South



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Existing Conditions
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Scannell Field



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Existing Conditions
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Invasive Species

Scannell Field

3 to 8" DBH = 19
>8 to 20" DBH = 7
>20" DBH = 2
Total 28



oriental bittersweet at shoreline



oriental bittersweet canopy



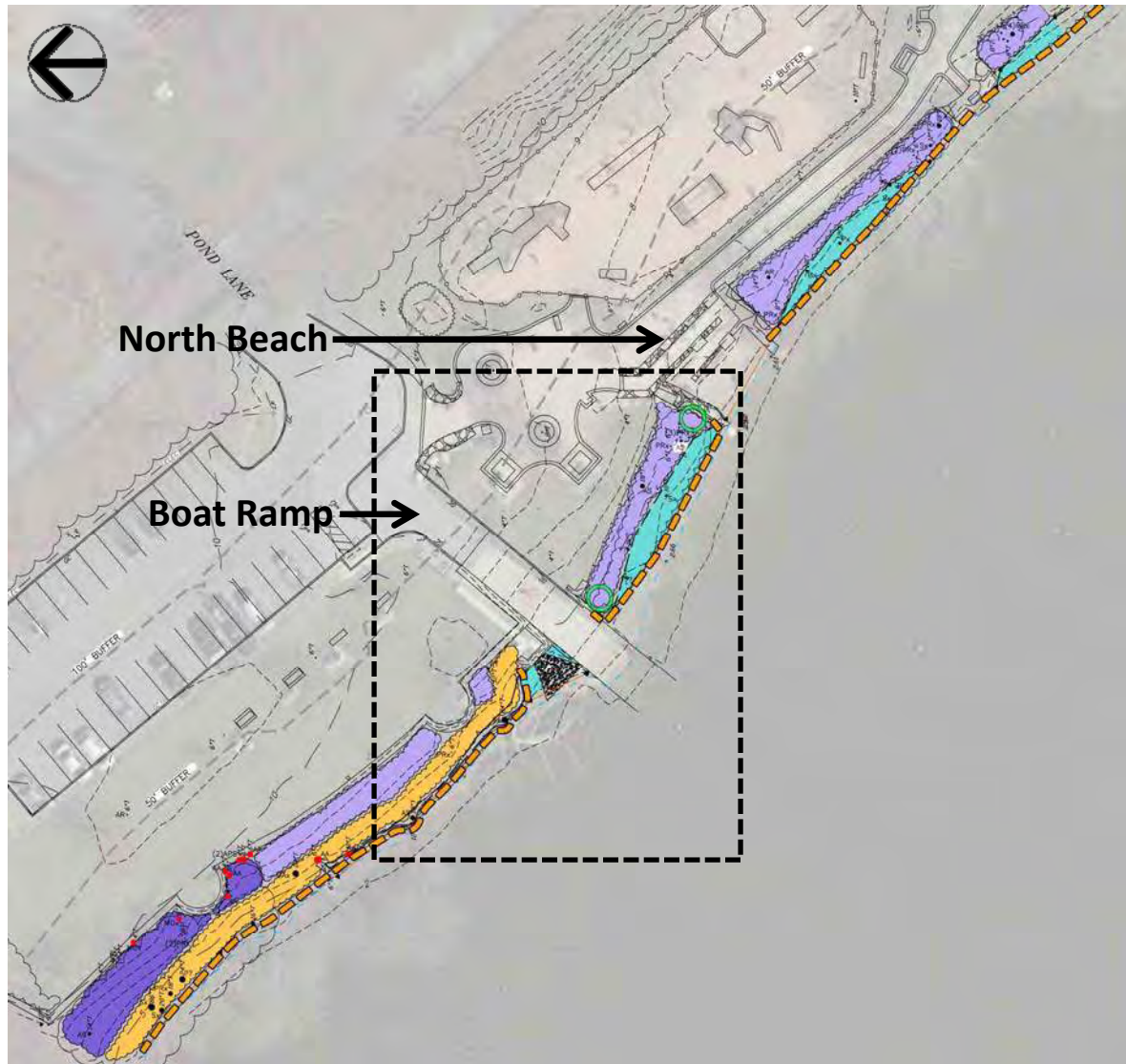
Norway maple



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Invasive Species
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Spy Pond Park-North



LEGEND

- ZONE 1
SHORELINE STABILIZATION
- COIR FASCINES
- ZONE 2
BORDERING VEGETATED WETLAND
ENHANCEMENT PLANTING
- ZONE 3
RIPARIAN BUFFER ZONE
ENHANCEMENT PLANTING
- ZONE 4
RIPARIAN WOODLAND
ENHANCEMENT PLANTING
- MEADOW PLANTING
- LAWN AREA



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Proposed Design
Spy Pond Edge & Erosion Control **30% Design**

Detail at Boat Ramp

ZONE 1
SHORELINE STABILIZATION

COIR FASCINES

ZONE 2
BORDERING VEGETATED WETLAND
ENHANCEMENT PLANTING

ZONE 3
RIPARIAN BUFFER ZONE
ENHANCEMENT PLANTING

ZONE 4
RIPARIAN WOODLAND
ENHANCEMENT PLANTING

MEADOW PLANTING

LAWN AREA

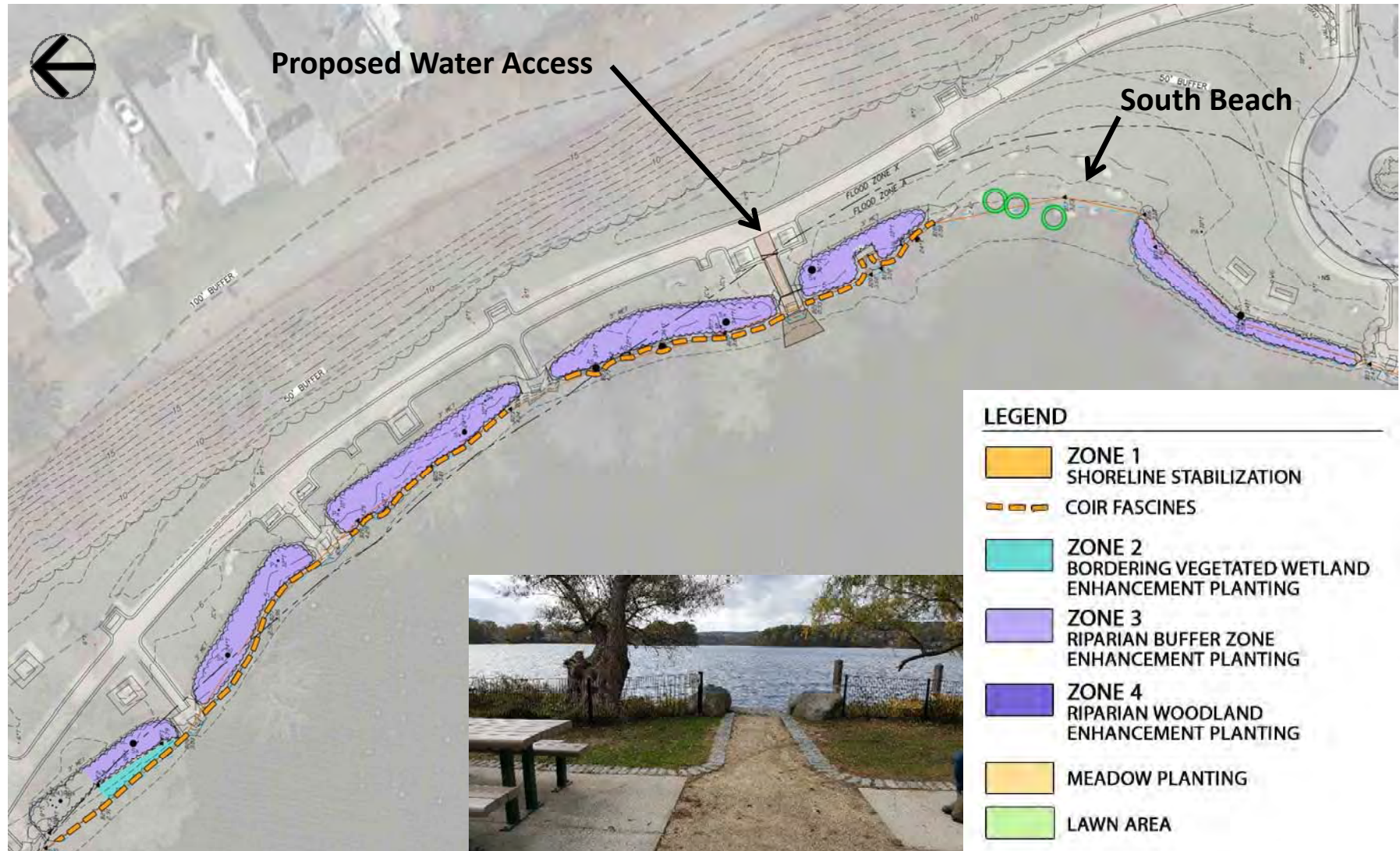
Detail at Boat Ramp



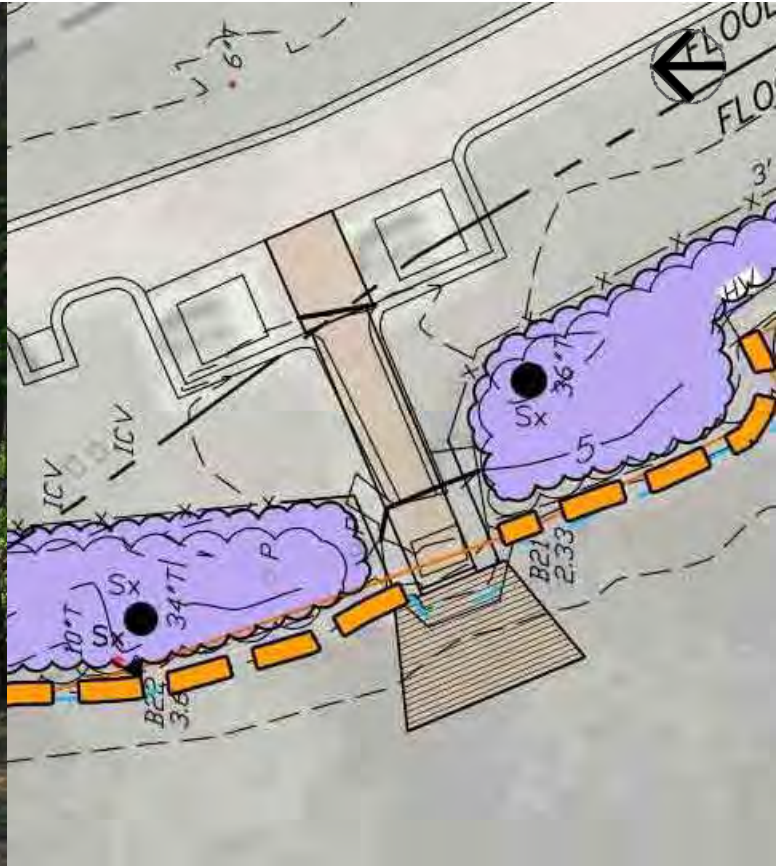
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Spy Pond Park-South

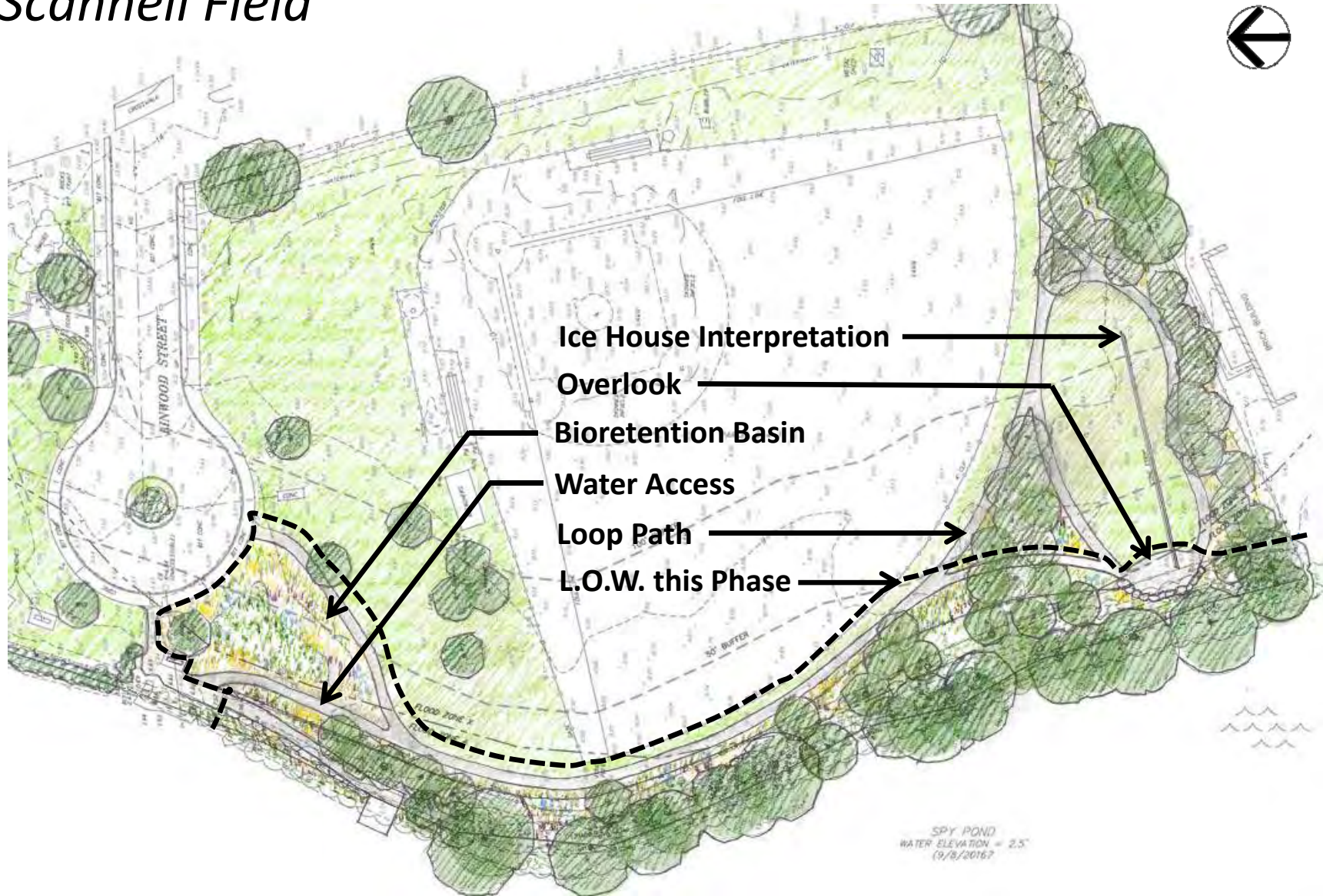


A wooden boardwalk leads to a viewing platform with a railing, overlooking a pond surrounded by dense green trees and foliage. The boardwalk is made of light-colored wooden planks and leads to a platform with a railing. The pond is surrounded by dense green trees and foliage, and there are some lily pads visible on the water. The scene is peaceful and scenic.



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Scannell Field



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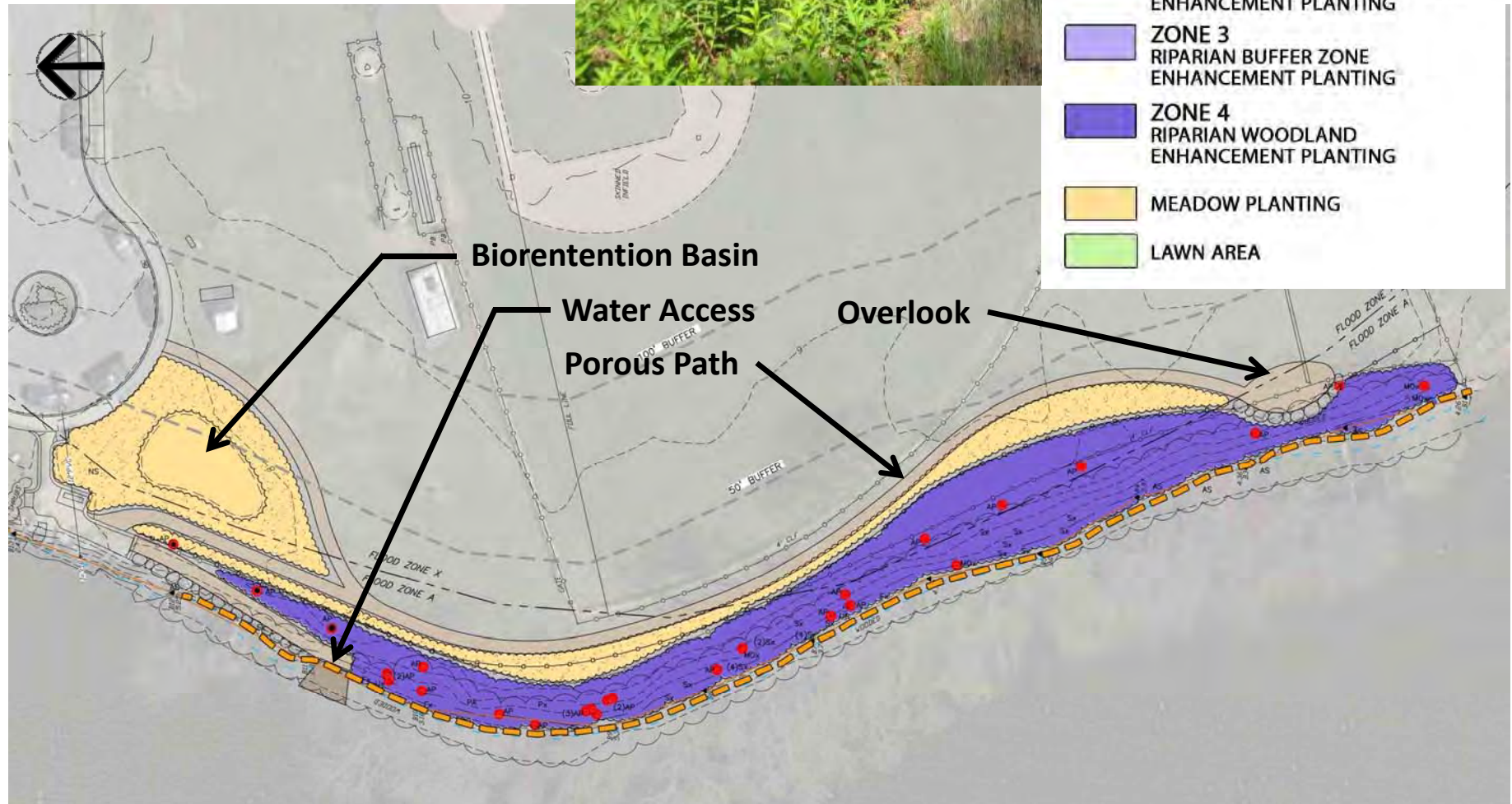
Proposed Design
Spy Pond Edge & Erosion Control **30% Design**

Scannell Field

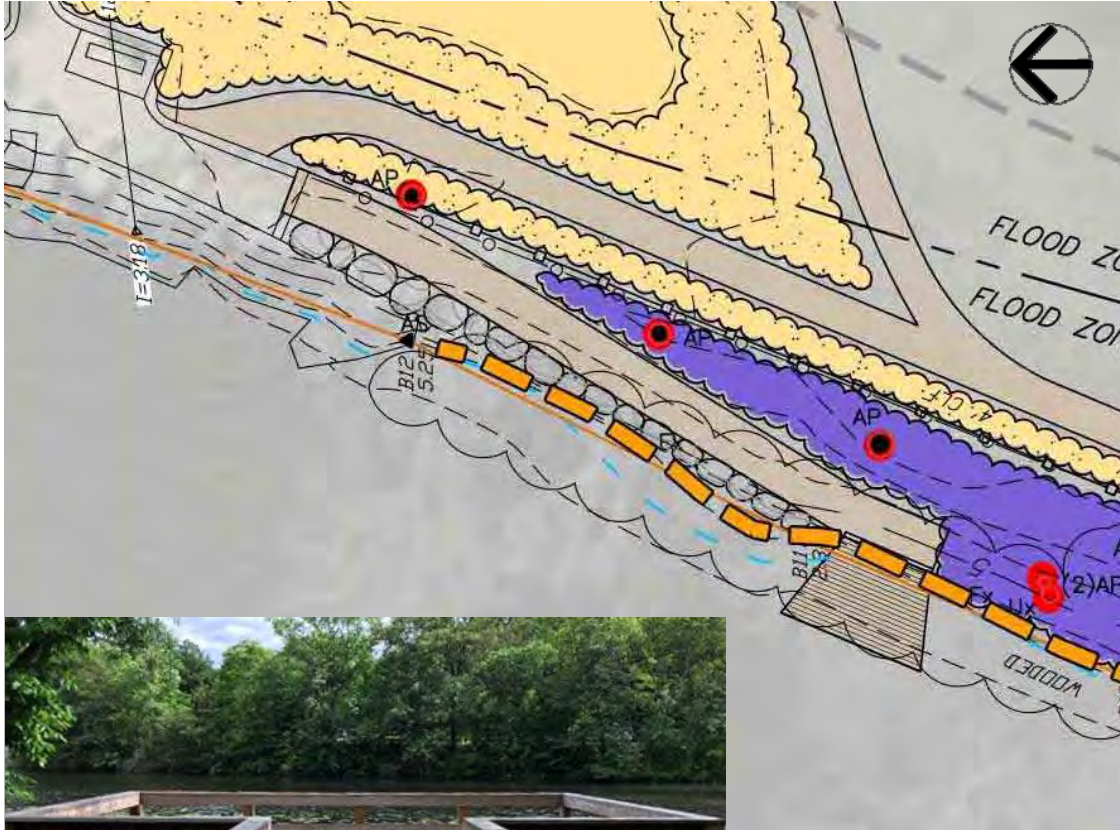


LEGEND

- ZONE 1
SHORELINE STABILIZATION
- COIR FASCINES
- ZONE 2
BORDERING VEGETATED WETLAND
ENHANCEMENT PLANTING
- ZONE 3
RIPARIAN BUFFER ZONE
ENHANCEMENT PLANTING
- ZONE 4
RIPARIAN WOODLAND
ENHANCEMENT PLANTING
- MEADOW PLANTING
- LAWN AREA



Scannell Field



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Proposed Design
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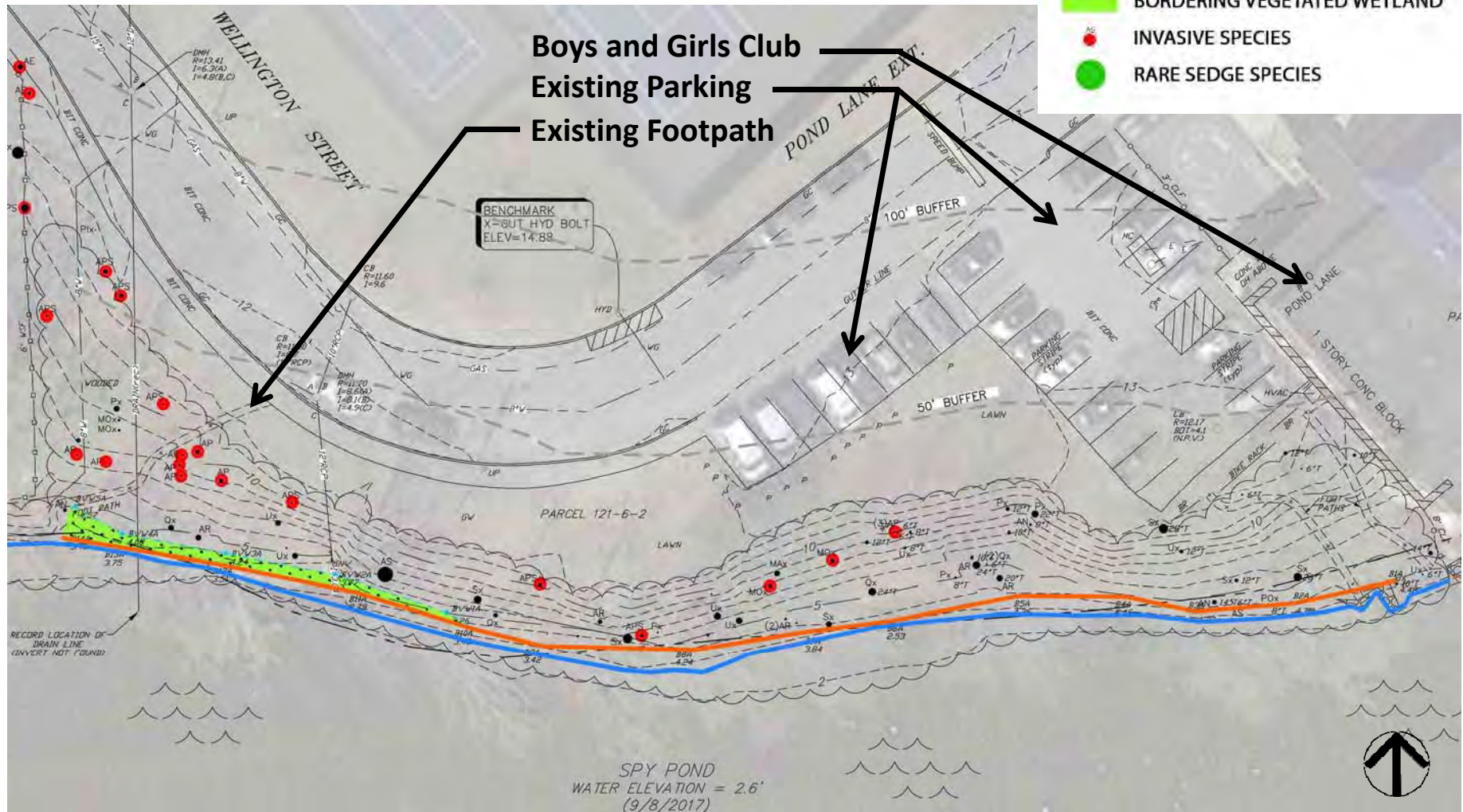
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Proposed Design
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Boys and Girls Club

LEGEND

- TOP OF BANK
- WATER LINE
- BORDERING VEGETATED WETLAND
- INVASIVE SPECIES
- RARE SEDGE SPECIES



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Existing Conditions
Spy Pond Edge & Erosion Control **30% Design**

Invasive Species

Boys and Girls Club

3 to 8" DBH = 16
>8 to 20" DBH = 7
>20" DBH = 1
Total 24



oriental bittersweet



sycamore maple & Norway maple



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Invasive Species
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ZONE 1
SHORELINE STABILIZATION

ZONE 2
BORDERING VEGETATED WETLAND
ENHANCEMENT PLANTING

ZONE 3
RIPARIAN BUFFER ZONE
ENHANCEMENT PLANTING

ZONE 4
RIPARIAN WOODLAND
ENHANCEMENT PLANTING

MEADOW PLANTING

LAWN AREA



Boys and Girls Club



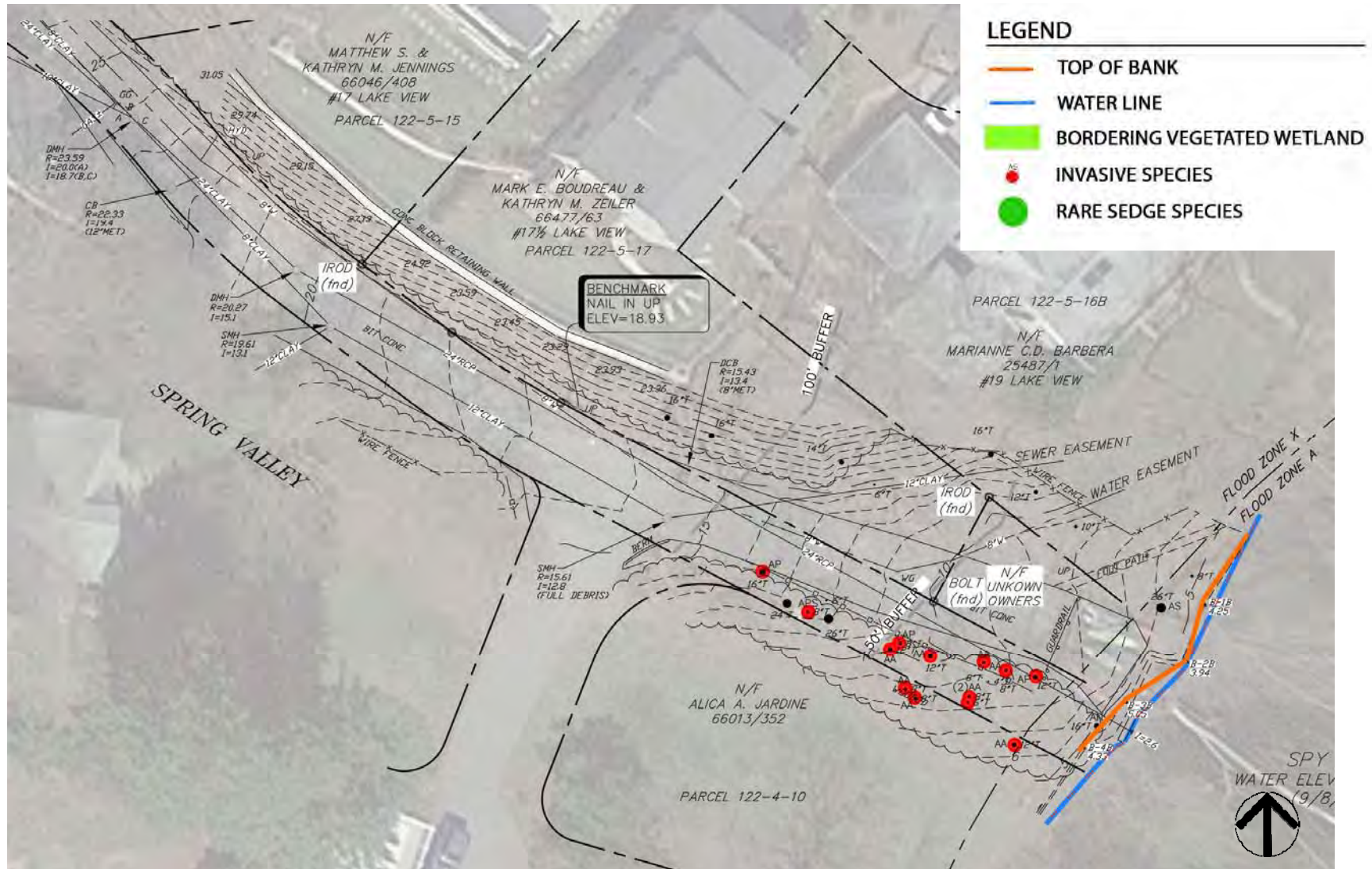
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Boys and Girls Club



Spring Valley Street



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Existing Conditions
Spy Pond Edge & Erosion Control **30% Design**

Invasive Species

Spring Valley Street

3 to 8" DBH = 8
>8 to 20" DBH = 5
>20" DBH = 0
Total 13



Ailanthus, multiflora rose, Euonymus



*sycamore maple, Norway
maple, Ailanthus*



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Invasive Species
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ELEV=18.93

DCB
R=15.43
I=13.4
(8'MET)

100' BUFFER

N/F
MARIANNE C.D. BARBERA
25487/1
#19 LAKE VIEW

Upland Meadow
Bioretention Basin

SEWER EASEMENT
FENCE WATER EASEMENT
FLOOD ZONE X
FLOOD ZONE A

WOODLAND RESTORATION
Path
Canoe Storage
Boulder Boat Launch

SPY
WATER ELEVATION



Proposed Design
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Your Vision for Spy Pond
Spy Pond Edge & Erosion Control **30% Design**